

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 17 June 2004 (17.06.2004)

PCT

(10) International Publication Number WO 2004/052052 A3

(51) International Patent Classification⁷: H04S 1/00, 3/00

(21) International Application Number:

PCT/EP2003/013172

(22) International Filing Date:

24 November 2003 (24.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02026779.5

2 December 2002 (02.12.2002) EP

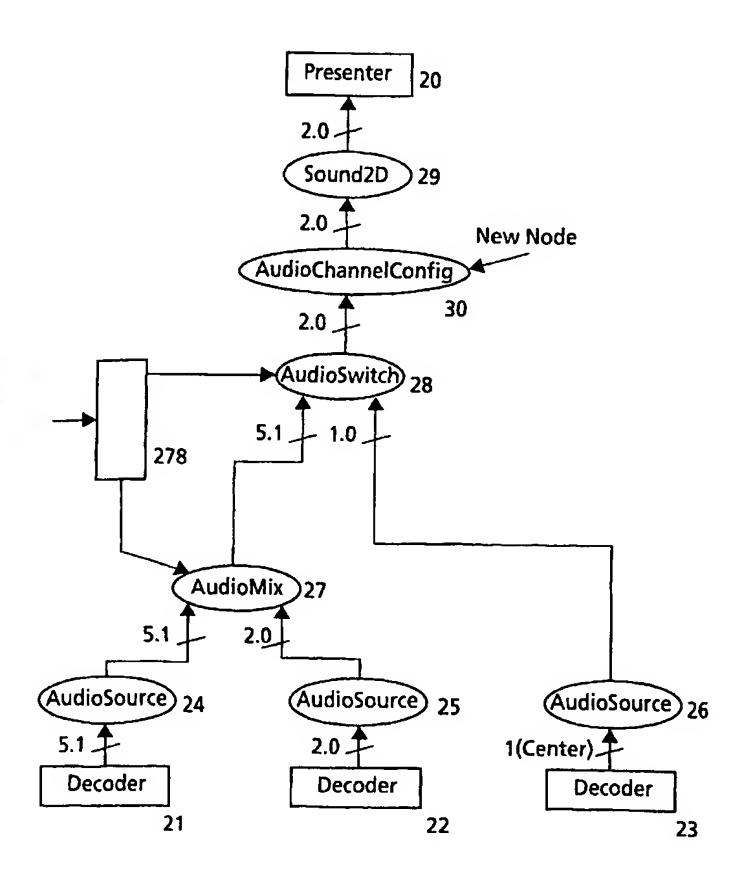
- (71) Applicant (for all designated States except US): THOM-SON LICENSING S.A. [FR/FR]; 46, Quai Alphonse le Gallo, F-92100 Boulogne Billancourt (FR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SCHMIDT, Jürgen

[DE/DE]; Akazienstr. 5b, 31515 Wunstorf (DE). SPILLE, Jens [DE/DE]; Kleines Feld 58, 30966 Hemmingen (DE). SCHRÖDER, Ernst, F. [DE/DE]; Pinkenburger Str. 25D, 30655 Hannover (DE). BÖHM, Johannes [DE/DE]; Akazienweg 54, 37083 Göttingen (DE).

- (74) Agent: HARTNACK, Wolfgang; Deutsche Thomson-Brandt GmbH, European Patent Operations, Karl-Wiechert-Allee 74, 30625 Hannover (DE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR PROCESSING AUDIO SIGNALS FROM A BITSTREAM



(57) Abstract: In the MPEG-4 standard ISO/IEC 14496:2001 several audio objects that can be coded with different MPEG-4 format coding types can together form a composed audio system representing a single soundtrack from the several audio substreams. In a receiver the multiple audio objects are decoded separately, but not directly played back to a listener. Instead, transmitted instructions for mixdown are used to prepare a single soundtrack. Mixdown conflicts can occur in case the audio signals to be combined have different channel numbers or configurations. According to the invention an additional audio channel configuration node is used that tags the correct channel configuration information items to the decoded audio data streams to be presented. The invention enables the content provider to set the channel configuration in such a way that the presenter at receiver side can produce a correct channel presentation under all circumstances. An escape code value in the channel configuration data facilitates correct handling of not yet defined channel combinations.



WO 2004/052052 A3



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 12 August 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

national Application No PCT/EP 03/13172

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04S1/00 H04S3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04S H04B H04N G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X	WO 98/55998 A (KONINKL PHILIPS ELECTRONICS NV ;PHILIPS SVENSKA AB (SE)) 10 December 1998 (1998-12-10) page 1, lines 1-3	1,3	
A	page 3, line 14 - page 7, line 1	2,4	
X	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 06, 28 June 1996 (1996-06-28) -& JP 08 031096 A (MATSUSHITA ELECTRIC IND CO LTD), 2 February 1996 (1996-02-02)	1,3	
Α	abstract; figures 1-6	2,4	
A	EP 1 021 044 A (THOMSON BRANDT GMBH) 19 July 2000 (2000-07-19) page 2, line 48 - page 3, line 1 page 3, line 33 - page 5, line 21	1-4	
	-/		

Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
 Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed 	 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed Invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search 2 June 2004	Date of mailing of the international search report $16/06/2004$
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Authorized officer Zanti, P

INTERNATIONAL SEARCH REPORT

PCT/EP 03/13172

	PCT/EP 03/13172
	•
Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PATENT ABSTRACTS OF JAPAN vol. 2002, no. 06, 4 June 2002 (2002-06-04) -& JP 2002 044543 A (ALPINE ELECTRONICS INC), 8 February 2002 (2002-02-08) abstract	1-4
	vol. 2002, no. 06, 4 June 2002 (2002-06-04) -& JP 2002 044543 A (ALPINE ELECTRONICS INC), 8 February 2002 (2002-02-08)

INTERNATIONAL SEARCH REPORT

PCT/EP 03/13172

Patent document cited in search report		Publication date	i awii ianiny		Publication date	
WO 9855998	A .	10-12-1998	AT BR CN DE DE HU WO JP US	244920 T 9804955 A 1123885 B 69816242 D1 69816242 T2 0920698 A2 0001912 A2 9855998 A2 2001505348 T 6694030 B1	15-07-2003 24-08-1999 08-10-2003 14-08-2003 27-05-2004 09-06-1999 28-10-2000 10-12-1998 17-04-2001 17-02-2004	
JP 08031096	Α	02-02-1996	NONE	— — — — — — — — — — — — — — — — — — —		
EP 1021044	Α .	19-07-2000	EP CN EP JP US	1021044 A1 1260671 A ,B 1020998 A2 2000236543 A 6487528 B1	19-07-2000 19-07-2000 19-07-2000 29-08-2000 26-11-2002	
JP 2002044543	 А	08-02-2002	NONE	ہے ہے باہم کے ہے۔پیر رک ذب کے بیٹار ایک انداز کے انتدا سے کہ ک		